

AMENDMENTS TO THE CLAIMS

1 1. (Currently Amended) A computer-implemented method for generating and using a
2 mapping scheme, the method comprising:
3 receiving commands from a user, wherein said commands establish a mapping
4 between one or more attributes of ~~a source~~ an XML document and one or
5 more attributes of a ~~target~~ relational database;
6 based on said commands, automatically generating a mapping scheme that represents
7 said mapping, wherein said mapping scheme includes at least one of:
8 multiple attributes of said ~~source~~ XML document mapped to a single attribute
9 of said ~~target~~ relational database; and
10 multiple attributes of said ~~target~~ relational database mapped to a single
11 attribute of said ~~source~~ XML document; and
12 using said mapping scheme to perform a single transformation that moves ~~a set of~~
13 ~~data~~ said XML document directly ~~from said source~~ into said ~~target~~ relational
14 database without materializing the entire ~~set of data~~ XML document separate
15 from said ~~source~~ XML document and said ~~target~~ relational database during
16 said transformation;
17 ~~wherein said source is one of a relational database and an XML document and said~~
18 ~~target is the other of said relational database and said XML document;~~
19 wherein the one or more attributes, ~~of the one of said source and said target that is~~ of
20 said relational database[,.] correspond to one or more columns in one or more
21 tables in said relational database.

1 2-3. (Canceled)

1 4. (Currently Amended) The method of claim 1, wherein said mapping scheme further
2 includes instructions on how to collapse a number of attributes of said ~~source~~ XML
3 document into a smaller number of attributes of said ~~target~~ relational database.

1 5. (Currently Amended) The method of claim 1, wherein said mapping scheme further
2 includes instructions on how to expand a number of attributes of said ~~source~~ XML
3 document to a greater number of attributes of said ~~target~~ relational database.

1 6. (Currently Amended) The method of claim 1, wherein:
2 the step of receiving commands from a user includes receiving user input that
3 specifies a condition, and an action associated with the condition; and
4 the method further comprises the steps of:
5 performing an operation that includes converting data, based on said mapping
6 scheme, from ~~the source~~ said XML document to a format associated
7 with ~~the target~~ said relational database;
8 during performance of said operation, performing the steps of:
9 determining whether the condition is satisfied; and
10 if the condition is satisfied, then performing said action.

1 7. (Currently Amended) The method of claim 1, wherein:
2 the step of receiving commands from a user includes receiving user input that
3 specifies a specific set of instructions; and
4 the method further comprises the steps of:
5 performing an operation that includes converting data, based on said mapping
6 scheme, from ~~the source~~ said XML document to a format associated
7 with ~~the target~~ said relational database; and
8 during performance of said operation, executing the specific set of instructions
9 to affect said operation.

1 8. (Currently Amended) The method of claim 1, wherein:
2 the step of receiving commands from a user includes receiving user input that
3 declares a variable to which values can be assigned; and
4 the method further comprises the steps of:

5 performing an operation that includes converting data, based on said mapping
6 scheme, from ~~the source~~ said XML document to a format associated
7 with ~~the target~~ said relational database; and
8 during performance of said operation, using said variable.

1 9. (Currently Amended) The method of claim 1, wherein:
2 the step of receiving commands from a user includes receiving user input that
3 specifies a precompiled routine; and
4 the method further comprises the steps of:
5 performing an operation that includes converting data, based on said mapping
6 scheme, from ~~the source~~ said XML document to a format associated
7 with ~~the target~~ said relational database; and
8 during performance of said operation, calling said precompiled routine to
9 affect said operation.

1 10. (Currently Amended) The method of claim 1, further comprising:
2 reading source data definition that includes information about said ~~plurality of one or~~
3 more attributes of said ~~source~~ said XML document;
4 reading target data definition that includes information about said ~~plurality of one or~~
5 more attributes of said ~~target~~ relational database; and
6 based on said source data definition and said target data definition, presenting to said
7 user an interface that identifies said ~~plurality of one or more~~ attributes of said
8 ~~source~~ said XML document and said ~~plurality of one or more~~ attributes of said
9 ~~target~~ relational database;
10 wherein said step of receiving commands from said user is performed by receiving
11 said commands through said interface.

1 11. (Currently Amended) The method of claim 1, wherein said mapping scheme includes
2 instructions on how to collapse a number of hierarchical levels of said ~~source~~ said XML
3 document into a smaller number of hierarchical levels of said ~~target~~ relational
4 database.

1 12. (Currently Amended) The method of claim 1, wherein said mapping scheme includes
2 instructions on how to expand a number of hierarchical levels of said ~~source~~ XML
3 document to a greater number of hierarchical levels of said ~~target~~ relational database.

1 13-16. (Canceled)

1 17. (Currently Amended) A computer-readable storage medium ~~carrying~~ storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 1.

1 18-19. (Canceled)

1 20. (Currently Amended) A computer-readable storage medium ~~carrying~~ storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 4.

1 21. (Currently Amended) A computer-readable storage medium ~~carrying~~ storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 5.

1 22. (Currently Amended) A computer-readable storage medium ~~carrying~~ storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 6.

1 23. (Currently Amended) A computer-readable storage medium ~~carrying~~ storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 7.

- 1 24. (Currently Amended) A computer-readable storage medium ~~carrying~~ storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 8.
- 1 25. (Currently Amended) A computer-readable storage medium ~~carrying~~ storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 9.
- 1 26. (Currently Amended) A computer-readable storage medium ~~carrying~~ storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 10.
- 1 27. (Currently Amended) A computer-readable storage medium ~~carrying~~ storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 11.
- 1 28. (Currently Amended) A computer-readable storage medium ~~carrying~~ storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 12.
- 1 29-32. (Canceled)
- 1 33. (Currently Amended) The method of claim 1, wherein:
2 a plurality of attributes of said ~~source~~ XML document are related to each other
3 according to a first hierarchy that includes multiple hierarchical levels;
4 a plurality of attributes of said ~~target~~ relational database are related to each other
5 according to a second hierarchy that includes multiple hierarchical levels; and
6 said commands establish, in said mapping, that a particular hierarchical level of said
7 ~~source~~ XML document is mapped to a particular hierarchical level of said

8 ~~target~~ relational database, wherein said particular hierarchical level of said
9 ~~source~~ XML document is at a different depth, within said first hierarchy, than
10 the depth of said particular hierarchal level of said ~~target~~ relational database
11 within said second hierarchy.

1 34. (Currently Amended) The method of claim 1, wherein said single transformation is
2 performed by executing commands defined in a programming language that supports
3 operations to fetch said ~~set of data~~ XML document directly ~~from said source~~ and store
4 said ~~set of data~~ XML document directly into said ~~target~~ relational database.

1 35. (Previously Presented) The method of claim 1, wherein:
2 said mapping scheme includes instructions which define that operations included in
3 said single transformation are grouped to represent a transaction; and
4 using said mapping scheme to perform said single transformation further comprises
5 performing said operations in said transaction.

1 36. (Currently Amended) A computer-readable storage medium ~~carrying~~ storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 33.

1 37. (Currently Amended) A computer-readable storage medium ~~carrying~~ storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 34.

1 38. (Currently Amended) A computer-readable storage medium ~~carrying~~ storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 35.

1 39. (New) The method of claim 1, wherein using said mapping scheme to perform said
2 single transformation comprises:

3 processing a first XML element of said XML document to move said first XML
4 element from said XML document to said relational database; and
5 after processing of said first XML element is completed, processing a second XML
6 element of said XML document to move said second XML element from said
7 XML document to said relational database, wherein said second XML
8 element is different from said first XML element.

1 40. (New) A computer-readable storage medium storing one or more sequences of
2 instructions which, when executed by one or more processors, causes the one or more
3 processors to perform the method recited in Claim 39.